

Appl. No. : 09/380,826  
Filed : November 22, 1999

### AMENDMENTS TO THE CLAIMS

1. (Currently amended) An isolated pathogenic *Leptospira* bacterium, wherein said bacterium comprises a genetic sequence selected from the group consisting of:

a) SEQ ID NO: 1;

b) a sequence having at least 99% identity to SEQ ID NO: 1, and

c) a sequence complementary to one of the foregoing sequences, belongs to serovar Hurstbridge, wherein said bacterium is cross-reactive in a cross-agglutination absorption assay with the *Leptospira fainei* strain WKID deposited under AGAL Accession No. N95/69684

~~b) belongs to sero group Hurstbridge and cross agglutinates with share group antigens of the *Leptospira fainei* strain WKID deposited under AGAL Accession No. N95/69684, wherein said bacterium does not cross agglutinate with the members of other *Leptospira* groups; or~~

~~c) belongs to the species *Leptospira fainei* and wherein said bacterium comprises genomic DNA which is at least 40% homologous to the genomic DNA derived from *Leptospira fainei* strain WKID deposited under AGAL Accession No. N95/69684.~~

2. (Previously presented) The isolated pathogenic *Leptospira* bacterium according to claim 1, wherein said bacterium grows in media containing 8-azaguanine and at a temperature in the range from about 13°C to about 37°C.

3. (Previously presented) The isolated pathogenic *Leptospira* bacterium according to claim 2, wherein said bacterium grows in media containing at least 100 µg/ml 8-azaguanine.

4. (Previously presented) The isolated pathogenic *Leptospira* bacterium according to claim 2, wherein said bacterium grows at temperatures in the range from about 13°C to about 37°C.

5. (Previously presented) The isolated pathogenic *Leptospira* bacterium according to claim 1, wherein said bacterium is a pathogen that infects a mammal selected from the group consisting of: human, livestock animal, and companion animal.

6. (Previously presented) The isolated pathogenic *Leptospira* bacterium according to claim 5, wherein said bacterium infects pigs.

Appl. No. : 09/380,826  
Filed : November 22, 1999

7. (Previously presented) The isolated pathogenic *Leptospira* bacterium according to claim 5, wherein said bacterium infects humans.

8. (Previously presented) The isolated pathogenic *Leptospira* bacterium according to claim 5, wherein said bacterium infects bovines.

9. (Previously presented) The isolated pathogenic *Leptospira* bacterium according to claim 5, wherein said bacterium produces the symptoms of leptospirosis in a human or other animal which it infects.

10. (Previously presented) The isolated pathogenic *Leptospira* bacterium according to claim 1, wherein said bacterium induces reproductive disease.

11. (Previously presented) The isolated pathogenic *Leptospira* bacterium according to claim 10, wherein the reproductive disease induced by said bacterium comprises a lower rate of farrowing in an infected animal compared to a non-infected animal.

12. (Previously presented) The isolated pathogenic *Leptospira* bacterium according to claim 10, wherein the reproductive disease induced by said bacterium comprises fetal death *in utero* or spontaneous abortion.

13. (Previously presented) The isolated pathogenic *Leptospira* bacterium according to claim 10, wherein the reproductive disease causes the weaning-to-mating period for the offspring of an infected animal to be longer than for the offspring of a non-infected animal.

14. (Original) The isolated pathogenic *Leptospira* bacterium according to Claim 10, wherein the reproductive disease induced by said bacterium comprises seasonal infertility.

15. (Canceled)

16. (Canceled)

17. (Canceled)

18. (Canceled)

19. (Currently amended) The isolated *Leptospira* bacterium according to claim 1, wherein the bacterium has the following characteristics of the microorganism deposited under AGAL Accession No. N95/69684:

the bacterium belongs to the species of *Leptospira fainei*.

the bacterium grows at temperatures in the range from about 13°C to about 37°C,

the bacterium grows in media containing at least 225 mg/ml 8-azaguanine,

Appl. No. : 09/381,826  
Filed : November 22, 1999

the bacterium is capable of infecting a livestock or a companion animal; and  
the bacterium is capable of inducing reproductive disease in at least one of said animals.

20. (Previously presented) An isolated *Leptospira* bacterium consisting of *Leptospira* strain WKID (AGAL Accession No. N95/69684).

21.-74. (Canceled)

75. (Previously presented) The isolated *Leptospira* bacterium according to claim 5, wherein said livestock and companion animals are selected from the group consisting of: pigs, bovines, sheep, goats, horses, deer, alpaca, dogs and cats.

76.-123. (Canceled)

124. (Previously presented) The isolated *Leptospira* bacterium according to claim 1, wherein said bacterium is a non-infectious or attenuated bacterium.

125. (Previously presented) The isolated *Leptospira* bacterium according to claim 124, wherein said attenuated bacterium consists of a killed isolated bacterium.

126. (Previously presented) The isolated pathogenic *Leptospira* bacterium of claim 124 in combination with a pharmaceutically-acceptable carrier or diluent.

127. (New) An isolated pathogenic *Leptospira* bacterium, wherein said bacterium comprises a genetic sequence having sufficient homology with SEQ ID NO: 1, wherein said bacterium is cross-reactive in a cross-agglutination absorption assay with the *Leptospira* strain WKID deposited under AGAL Accession No. N95/69684.